

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-013021**Date Inspected:** 08-Apr-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

CWI Inspectors: Mr. Xu Qing Xiang, Mr. Wang Xu, Mr. Lv Li Qing

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

Tower Bay 11

This QA Inspector observed ZPMC welder Mr. Chen Shang Chun, stencil 046704 is using the shielded metal arc welding process to weld temporary lifting plates on the end of east tower lift 5 skin B. This QA Inspector observed that the base material was heated with a torch and ZPMC CWI Mr. Xu Qing Xiang is using a 160° Celsius temperature indicating crayon to monitor the base material preheat temperature. This QA Inspector measured a welding current of approximately 180 amps. Mr. Chen Shang Chun appears to be storing his welding electrodes in a heated container. This QA Inspector observed Mr. Chen Shang Chun appears to be certified to make this weld. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Mr. Hu Jilian, stencil 040614 is using the shielded metal arc welding process to weld temporary lifting plates on the end of east tower lift 5 skin D. This QA Inspector observed that the base material was heated with a torch and ZPMC CWI Mr. Xu Qing Xiang is using a 160° Celsius temperature

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indicating crayon to monitor the base material preheat temperature. This QA Inspector observed Mr. Hu Jilian appears to be storing his welding electrodes in a heated container. This QA Inspector observed Mr. Hu Jilian appears to be certified to make this weld. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Mr. Zhai Qingshan, stencil 202354 is using the flux cored welding process to weld temporary lifting plates on the end of east tower lift 5 skin B. This QA Inspector observed that the base material was heated with a torch and ZPMC CWI Mr. Xu Qing Xiang is using a 160° Celsius temperature indicating crayon to monitor the base material preheat temperature. This QA Inspector measured a welding current of approximately 300 amps and 30 volts. This QA Inspector observed Mr. Zhai Qingshan appears to be certified to make this weld. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Mr. Zhu Ming Jun, stencil 040609 is using flux cored welding procedure WPS-345-2G(2F)-Repair-1 to add weld material to the end of shear plate WD1-A25 in accordance with weld repair document T-WR3164. This QA Inspector observed a welding current of approximately 245 amps and 24.7 volts. CWI Mr. Xu Qing Xiang observed these welding amps and volts and he indicated the welding voltage was too low. CWI Mr. Xu Qing Xiang informed this QA Inspector the welding procedure lists a minimum voltage of 27.2 volts and that he will adjust the voltage. After Mr. Xu Qing Xiang made adjustments to the welding machine, this QA Inspector observed a welding current of approximately 260 amps and 30.0 volts. This QA Inspector observed ZPMC QC CWI Mr. Du Zhi Qun is monitoring the base material temperature and welder Mr. Zhu Ming Jun appears to be certified to make this weld. Items observed on this date do not fully comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Ma Yusheng, stencil 040759 is using flux cored welding procedure WPS-345-2G(2F)-Repair-1 to add weld material to the end of shear plate WD1-A25 in accordance with weld repair document T-WR3164. This QA Inspector observed a welding current of approximately 260 amps and 27.5 volts. This QA Inspector observed ZPMC QC CWI Mr. Du Zhi Qun is monitoring the base material temperature and welder Mr. Ma Yusheng appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Bin, stencil 040713 is using flux cored welding procedure WPS-345-2G(2F)-Repair-1 to add weld material to the end of shear plate WD1-A25 in accordance with weld repair document T-WR3164. This QA Inspector observed a welding current of approximately 260 amps and 28.0 volts. This QA Inspector observed ZPMC QC CWI Mr. Du Zhi Qun is monitoring the base material temperature and welder Mr. Wang Bin appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

OBG Bay 14

This QA Inspector observed ZPMC welder Mr. Ji Hongwei, stencil 058245 is using flux cored welding process WPS-B-T-2132 to make OBG segment 12BW weld SEG3004D-055. This QA Inspector observed a welding current of approximately 310 amps and 31.0 volts. This QA Inspector observed Mr. Ji Hongwei appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract

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documents.

This QA Inspector observed ZPMC welder Mr. Hong Liang, stencil 200113 has recently used flux cored welding process WPS-B-T-2114-FCM-1 to make OBG segment 12CE weld SEG3003C-008. This QA Inspector observed QC has measured a welding current of 149 amps and 25.1 volts and Mr. Hong Liang appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Jin Chen Mao, stencil 058551 has recently used flux cored welding procedure WPS-B-T-2233 to make OBG weld SEG3003N-014 at OBG segment 12CE near panel point PP115. This QA Inspector observed QC personnel have recorded a welding current of 212 amps and 25.1 volts. This QA Inspector observed that Mr. Jin Chen Mao appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Hong Yong Li, stencil 044801 has recently used flux cored welding procedure WPS-B-T-2233 to make OBG weld SEG3003L-014 at OBG segment 12CE. This QA Inspector observed QC personnel have recorded a welding current of 215 amps and 25.1 volts. This QA Inspector observed that Mr. Hong Yong Li appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. He Hanbi, stencil 202122 has used flux cored welding procedure WPS-B-T-2232-TC-U4b-F to make OBG weld DP3054-001-012. This QA Inspector observed QC has recorded a welding current of 296 amps and 30.4 volts. This QA Inspector observed Mr. He Hanbi appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

ABF issued "Inspection Notification Sheet" number 04082010-2 item #1 informing QA that on 4-08-2010 at 18:30 hours ABF Inspectors will be performing ultrasonic (UT) inspections of repaired weld CA089-004 which joins the deck plate and edge plate on the counterweight side of OBG 10DW. This weld is located in OBG Bay 14. Caltrans QA Inspector Mr. Mike Hasler was informed by ABF/Sense UT Inspectors that these weld repairs are UT acceptable. This QA Inspector performed ultrasonic inspections at the four weld repair locations as listed on the UT report data sheets for detection of longitudinal and planar transverse indications utilizing scanning patterns A, B, C and D (AWS D1.5 Fig 6.7) at "Y" locations 8275 mm, 8280 mm and 8285 mm appear to comply with project specifications and "Y" location 13950 mm appears to have a +7 class "A" rejectable indication transverse. Note: These inspections are being documented and tracked on "Verification Witness Request" documents and no TL-6027 UT report or incident report was issued for these inspections. See the photograph below for additional information.

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OBG 10DW weld CA089-004 transverse UT reject.



Summary of Conversations:

See Above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer
